

Special Session, May 17, 2010, 4:00 p.m.
Catawba County Board of Commissioners

Utilities and Engineering

Work Session – EcoComplex – Bio-Energy Facility

The Catawba County Board of Commissioners met in Special Session on Monday, May 17, 2010 at 4:00 p.m. in Room 1122 of the Appalachian State University Center on Catawba Valley Community College East Campus in Hickory.

Present were Chair Katherine W. Barnes, Vice-Chair Lynn M. Lail and Commissioners Dan A. Hunsucker, Glenn E. Barger and Barbara G. Beatty.

Also present were County Manager J. Thomas Lundy, Assistant County Manager Lee Worsley, County Attorney Debra Bechtel, Deputy County Attorney Anne Marie Pease, Utilities and Engineering Director Barry Edwards and Assistant Director Jack Chandler, Economic Development President Scott Millar and County Clerk Barbara Morris. Assistant County Manager Dewey Harris was absent.

1. Chair Katherine W. Barnes called the meeting to order at 4:00 p.m. and welcomed everyone present and stated the Board was pleased to get an update on the developments at the EcoComplex. She noted that no ad valorem taxes were utilized in these efforts but funds came from the Solidwaste Enterprise Fund which were derived from tipping fees. She then turned the meeting over the Utilities and Engineering Director Barry Edwards.

Mr. Edwards stated that the presentation would focus on the Bio-Energy Facility. Before introducing a number of speakers, Mr. Edwards pointed out that there had been no increases in tipping fees for 14 years due to the landfill gas-to-energy program which makes the County approximately \$220,000 year and provides energy to over 1400 homes. This was an example of the innovation the County has embraced over the years and now the Bio-Energy Facility was another example of that innovation. The Bio-Energy Facility will be the first of its kind in North America and is anticipated by GE Energy, Andritz, and other world leaders in bio-waste and energy management to create a new paradigm worldwide in bio-waste and bio-energy management. The County's Bio-Energy Facility will employ woody and biomass waste from EcoComplex entities to generate electricity, steam, heat, and CO₂. The proposed Bio-Energy Facility will employ Nexterra's advanced biomass gasification technology and equipment coupled with GE-Jenbacher internal combustion engines and electrical generator sets and micro steam turbines to generate over 2.5 megawatts of electricity per hour, which is enough electricity to power 1200 average size homes. Initially, the Bio-Energy Facility will solely gasify woody waste from EcoComplex entities; however, in the near future, through past and current research performed by the University of British Columbia and future partnered research planned at our facility by the University of North Carolina-Charlotte, the facility will have the capability to also gasify other EcoComplex bio-wastes such as wastewater sludge, seed meal, and algae. Two PhD students are and will remain involved in the Bio-Energy development and research.

Mr. Edwards then introduced Dr. Susan McCracken, Director of External Affairs and Community Relations at Appalachian State University. Dr. McCracken discussed the different components of this project, the student involvement and the grant opportunities.

Then Dr. Roger George, General Manager of North America GE-Energy and Jonathan Rhone, President and CEO of Nexterra Energy gave a brief overview of the bio-energy facility description and the technology that would be utilized.

Mr. Edwards then updated the Board on the Biosolids Management Facility; the Agricultural, Animal and Food Waste Digester Facility; the Composting/Soils Amendment Facility and the Greenhouse Research Lab.

Dr. Matt Parrow of the University of North Carolina – Charlotte discussed the University involvement in the project and their pleasure in being included in this endeavor and Mr. Edwards followed up with a

summary of what the University roles would be in the research. PhD Student Richard Giles came forward to give a brief description of his intended wood ethanol and algae research.

Economic Development President Scott Millar, University of North Carolina Board of Governors Leroy Lail, and Dr. Dennis Grady discussed the impact the EcoComplex had on the County and the draw it was for business and technology growth.

Mr. Edwards then outlined the costs of the project. The Preliminary Engineering project cost estimate is \$20,734,700, and the cost breakdown is:

• GE Energy Biomass Gasification System (See “ <i>Term Sheet for the Purchase Agreement for Advanced Biomass CHP Plant</i> ”.):	\$15,810,000
• Grid Interconnect Improvements:	\$ 500,000
• Duke Energy Interconnect Fee:	\$ 300,000
• Building including engineering	\$ 1,897,200
• Three Micro Steam Turbines	\$ 2,227,500

Several local contractors with experience in constructing industrial buildings and complexes, Hickory Construction, Mathews Construction, and David E Looper & Company assisted Team with estimating building costs. Their assistance was and is very valuable to vetting and developing the Bio-Energy project. It was and is staff’s wishes to employ knowledgeable local contractors to perform the Bio-Energy construction. However, State bidding laws will require County to allow any qualified contractor to bid the project, and county must use lowest responsible bidder to perform the construction. Staff and County’s Consulting Engineer, in an effort to ensure contractors are qualified to perform the construction prior to bidding the work, will prequalify contractors prior to bidding the project.

Based upon conservative financing terms of 20 years at 3.6% interest and the preliminary cost estimates derived by Petra Engineering and staff employing Preliminary Engineering design and work performed by GE Energy, Nexterra, and CDM Engineers, the County will garner revenues over expenditure annually throughout the life of the loan. Annual debt service payments will be \$1,455,853 and County’s annual operational and maintenance costs in year one are conservatively estimated to be \$944,000 and projected to grow at 3% annually. Total anticipated expenses and revenues in year one are \$2,399,853 and \$2,442,853 respectively. Therefore, it is anticipated that revenues will exceed expenses in year one by \$43,000 and annual revenues over expenses will increase in time. 20 Year Cumulative Net Profit is projected to be \$4,430,944. Note, staff and County’s consultants are still in negotiations with Duke Energy and equipment suppliers therefore, these financial projections are based upon successfully completing the Duke Energy PPA and equipment purchase contracts.

Commissioner Dan Hunsucker then made a motion to direct staff to move forward with Bio-Energy Facility Development; direct the Utilities and Engineering Director to move forward with securing Power Purchase Agreement (PPA) for electrical sales generated by the Bio-Energy Facility; direct County Finance Director to move forward with securing financing for Bio-Energy Facility based upon acquired PPA that ensures adequate revenue stream; direct staff to finalize a Contract to Purchase GE Energy and Nexterra Equipment to include the installation and commissioning based upon the “Term Sheet for the Purchase Agreement for Advanced Biomass CHP Plant” dated March 19, 2010; authorize the exception from announcing all requirements for architectural, engineering, and surveying services (General Statute 143-63.32) and authorize the County Manager to execute a contract with Camp Dresser & McKee for engineering design services to complete the design of the Bio-Energy Facility in an amount equal to 2.5% of total Bio-Energy Facility cost ; and, appropriate funding for the Bio-Energy Facility engineering design from the Solidwaste Management Fund. The motion carried unanimously. The following appropriations apply:

APPROPRIATIONS
Revenue
525-350050-690100
Fund Balance Applied

\$500,000.00

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Expenditures	
525-350150-986000	
Architect & Engineering	\$500,000.00

2. The meeting adjourned at 6:20 p.m. with the Board's regular meeting to follow at the 1924 Courthouse in Newton at 7:00 p.m.

Katherine W. Barnes, Chair
Catawba County Board of Commissioners

Barbara E. Morris
County Clerk